REMARKS

By this amendment Applicants have amended Claims 18-24 to point out more particularly and distinctly the subject matter of the present invention, the effect of which is believed to overcome the Examiner's rejection of the pending claims, both under 35 U.S.C. §112 (1st ¶) and (2nd ¶), as set forth in items 2-6 on pages 2-4 of the Official Action. No new matter has been added.

On the merits, the Examiner has rejected claims 18 and 25 under 35 U.S.C. §103(a) as obvious over DE 10032143 (Schwabe) in view of U.S. Patent No. 5,363,206 (Lew). The arguments in support of this rejection are advanced at item No. 8 on page 4 of the Official Action and not herein repeated.

Further, the Examiner has rejected claims 18 and 25 under 35 U.S.C. §103(a) as obvious over WO 01/23897 (Schwabe) in view of Lew. The arguments in support of this rejection are set for in items No. 9 on page 5 of the Official Actin, and not herein repeated.

Finally, the Examiner has rejected claims 18-22 and 24-25 under 35 U.S.C. §103(a) as obvious over EP 0661543 (Boehringer et al.) in view of Lew. The arguments in support of this rejection are set at in item No. 10, which bridges pages 5 and 6 of the Official Action, and not herein repeated.

In view of the remarks hereinbelow, Applicants respectfully traverse each of the foregoing rejections on the merits.

The present invention relates to a circuit configuration for evaluating an acceleration sensor according to the Ferraris principle for measuring speed acceleration, for example, speed

changes of a drive shaft. The "Lew" reference, which is relied upon by the Examiner in each of the grounds for rejecting the pending claims, relates to a device for measuring the quantity of a flow medium that passes (flows) through a looped-shaped device as shown in the figures and discussed at column 3, line 62 to column 9, line 8. Applicants understand the Lew invention to be used in measuring a liquid media in order to determine the quantity of a substance flowing through a conduit. Lew's invention has absolutely nothing in common with the present inventions, and Applicants do not believe one of ordinary skill in the art would have any reason to look to the Lew reference to supply what is absent in the teachings of the Schwabe and Boehringer et al. references.

Further, Applicants reaffirm the positions taken in connection with the primary references recited by the Examiner in the various rejections on the merits and as advanced in the Amendment dated December 18, 2002. As shown in Figures 5-7 of the present invention, a magnetic sensor (15) is required that generates a measuring signal (Bmess). With the aid of this signal, current (I_k) is regulated by the compensation coils (14). As shown in Figures 6 and 7, the signal of the magnetic field sensor is used for calculating the output signal of the acceleration sensor. The use of an additional magnetic field sensor (15) as an input variable for controlling current (I_k) through the compensation coils (14), as well as for calculating the output signal of the acceleration sensor is neither known from the teaching of the prior art or suggested thereby. Accordingly, Applicants respectfully request that the Examiner reconsider the grounds for rejection in view of the pending claims which are believed to have been satisfactorily amended to overcome the formal grounds of rejection as advanced by the Examiner.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made".

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please amend the Claims as follows:

In the Claims

18. A circuit [apparatus] configuration for evaluating an acceleration sensor [on] according to the Ferraris principle, comprising an inductive measurement head[, in which,] that interacts with a movable Ferraris disk, essentially via a main [over a principal] magneticizing field, and which [yields an] supplies a variable that is dependent on acceleration[-dependent quantity], further comprising an additional direct-current magnetic field excitation circuit having [triggering] means to cause the additional direct-current magnetic field to act compensatingly on an eddy-current field occurring from a higher rotational speed of the Ferraris disk [on an excitation coil] compensation windings delivering a direct-current magnetic field compensating the occurring eddy-current field, said [excitation coil] compensation windings being traversed by a direct current controlled by the additional direct-current magnetic field [excitation circuit], further comprising a magnetic field sensor provided for measurement of a magnetic field in the sensor, said sensor outputting a signal for regulating the current through the compensation windings [excitation coil].

19. The circuit [apparatus] according to claim [1,] 18, wherein the magnetic field sensor is configured as a Hall sensor or XMR sensor.

20. The circuit [apparatus] according to claim 18, wherein, in terms of the measurement of the magnetic field sensor a Bmess in the eddy [magnetic field in a vortex] is regulable to a preassignable value, including zero.

21. The circuit [apparatus] according to claim 18, further comprising a detector coil to detect a voltage induced by the magnetic field of the acceleration sensor, including a field in [a vortex] eddy.

22. The circuit [apparatus] according to claim 18, wherein, a [quantity] variable proportional to a voltage induced by the magnetic field of the acceleration sensor, in particular from [including the magnetic] the field in [a vortex] the eddy, is generated by a means of differentiating the said magnetic field.

23. The circuit [apparatus] according to claims 21 or [and] 22, wherein the direct current yields a low-frequency component of the acceleration, and the voltage induced by the magnetic field of the acceleration sensor, in particular from the field in the eddy [including the magnetic field in the vortex], or the [quantity] variable proportional thereto, yields a high-frequency component of the acceleration, and the two signals are combinable to a broad-band acceleration signal.

24. The circuit [apparatus] according to claim 20, wherein, by addition of a measured value of the magnetic field sensor to the compensation current, a broad-band value proportional to the rotational speed is determinable.

25. A digitally controlled machine tool, comprising an acceleration sensor according to the Ferraris principle, and an evaluating circuit according to claim 18.